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DR. WALLACE'S CONTRIBUTIONS TO THE PHYSIOLOGY AND PATHOLOGY OF THE NERVOUS SYSTEM OF THE EYE.—NO. II.

[Communicated for the Boston Med. and Surg. Journal.—Continued from page 174.]

In the electro-magnetic telegraph, we have, besides the mere conductors, other machinery, by which it is properly adjusted, and without which the instrument would be without value as a means of communication.

The power of directing the eye passes, by the 3d pair of nerves, to the levator palpebræ superioris, the rectus superior, the rectus internus, the rectus inferior, and the obliquus inferior; by the 4th pair to the obliquus superior; and by the 6th, to the rectus externus.

The adjusting power is transmitted to the ciliary processes and iris, by the ciliary nerves, which are about twenty in number. Three or four of these proceed from the nasal branch of the fifth pair, and the remainder in two bundles from the lenticular ganglion, which is formed by a twig from the inferior oblique branch of the 3d pair, and by a filament from the nasal branch of the fifth.

The power of feeling passes by divisions of the ophthalmic branch of the fifth pair, some of which pierce the sclerotica, and others, in the most minute division, proceed from the appendages.

For the nutrition of the organ, branches from the carotid plexus of the sympathetic are intimately united with the third and fifth pair, and with them pass into the orbit. Of the nerves subsidiary to the optic nerve, the third and the fifth pair are by far the most important.

When the second or third nerve is pinched, the pupil contracts; and when either nerve is divided, the pupil becomes dilated. When the optic nerve is divided, if the portion attached to the eye be irritated, the pupil does not contract; but if we irritate the portion attached to the brain, the pupil contracts as if the nerve had not been divided.

From these experiments of Mayo, it is inferred by Mackenzie that the connection between the second and third pair is formed anterior to their termination at the tubercula quadregemina, and that any interruption between this point of communication and that portion of the brain where vision is accomplished, may produce blindness, and yet the motions of the pupil may be unimpaired. The dilated pupil, which accom-

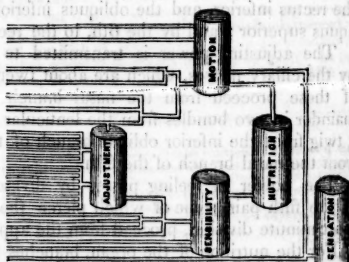
panies amaurosis from affections of the abdominal viscera, may be explained by affections of the branches of the sympathetic, some of which proceed with the third and the fifth pair, indirectly, and others directly, to the lenticular ganglion.

When the trunk of the 5th pair is divided in a dog, the pupil is expanded, and the eye becomes insensible to stimuli. Owing to diminished nutritive power the conjunctiva secretes muco-purulent matter, and the cornea ulcerates and assumes the dull appearance which we observe in the last stages of typhoid fever. It should be observed that in the guinea pig and rabbit, the pupil contracts after division of the fifth pair. In these animals the ciliary nerves are derived from the third pair, without the assistance of the fifth.

When the great sympathetic is divided, there is at first dilatation, and then continued contraction of the pupils; the eye is reddened, pus and tears are secreted, and nutrition is interrupted. When it is divided on both sides, the pupil becomes fixed and expanded. This effect is somewhat analogous to what we find in cases of amaurosis. When one eye only is blind, the motions of the pupil are not generally interrupted; but when both eyes are affected, both pupils are expanded.

The channels of nutrition, direction, feeling, adjustment, and vision, may be illustrated by the following plan:—

By 7th pair to Orb. Palp. - - - - -
 " 6th pair to Abducens - - - - -
 " 4th pair to Trochlearis - - - - -
 " 3d pair to Levator P. S. - - - - -
 " " " Rectus Superior - - - - -
 " " " " Internus - - - - -
 " " " " Inferius - - - - -
 " " " " Obliquus Inferior - - - - -
 By Lent. G. to Iris - - - - -
 " " " { Ciliary - - - - -
 " " " { Body - - - - -
 " " " Retina - - - - -
 By 5th pair from all the Tissues - - - - -
 " 2d pair from Retina - - - - -



This diagram shows that branches from the sympathetic pass to the conductors of motion and sensation; and that a compound power is produced by the union of the latter at the lenticular ganglion, which furnishes the power of adjustment.

For perfect vision, all these powers are depending on each other. Without the power of motion, the organ could not be directed, or adjusted; without feeling, the powers would not act on each other, and the organ could not be protected from danger; without nutrition, the parts would not retain their form; and without vision, the whole apparatus would act in vain.

By the relation of these powers to each other, we see how carious teeth, wounds or cicatrices affecting the nerves of sensibility, occasion impediments to vision, or even total blindness, and how affections of the re-productive system or abdominal viscera have a similar effect.

The Nervous diseases of the eye may be divided into—

I.—Affections of the Tract of the Second Pair, or

ABNORMAL		PERCEPTION.
IMPRESSION.	CONVEYANCE.	
Musæ,	Amblyopia,	Chrupsia,
Scotomata,	Diplopia,	Achromatopsia,
Spectra,	Hemiopia,	Micropia,
Photopsia,	V. Defiguratus,	Megalopia,
Amaurosis.	Amaurosis.	Amaurosis.

II.—Affections of the Ciliary Nerves, or

ABNORMAL ADJUSTMENT.		
Myopia,	Presbyopia,	Asthenopia,
Mydriasis,	Myosis,	Tremulous Iris.

III.—Affections of the 3d, 4th and 6th Pair, or

ABNORMAL DIRECTION.		
Spasm,	Paralysis,	Oscillation,
		Strabismus.

IV.—Affections of the 3d and 7th Pair, or

ABNORMAL PROTECTION.		
Blepharospasmus,	Lagophthalmos,	Nictitation,
		Ptoxis.

V.—Affections of the 5th Pair, or

ABNORMAL FEELING.		
Neuralgia and Anæsthesia Ciliary,	Lechrymal,	Facial.
		Photophobia.

A few of these diseases, only, will occupy our attention.

Abnormal Impression.—In the normal condition of the eye, vision is perfect. The rays of light are refracted by the humors, and form distinct images on the retina. The images of bodies from without, are alone seen, and they are not obscured by representations which as external objects do not exist. In abnormal vision, the appearance of unreal objects is frequently observed, to account for which there have been many conjectures, such as accumulated or morbid secretions on the cornea, entozoa, lymph, or other imperfectly transparent bodies in the aqueous humor, the liquor Morgagni, the crystalline lens, or the vitreous humor. As the eye is a camera obscura, it is of course subject to the same laws of refraction; and experiments with the latter, may support or contradict asserted causes of phenomena in the former. Filaments or other opaque bodies, even of considerable size, placed before or immediately behind the lens of a camera obscura, form no defined object on the picture; nor are air bubbles or filaments on the glass itself represented. As in the human eye no complaint of musæ is produced by specks on the cornea, filaments from the iris, or floating fragments of the crystalline capsule, we must look for other causes than those just enumerated.

As the retina lies between two serous sacs, we may suppose that shreds of false membrane, or the granules which occasion turbidity in

other serous cavities, may give rise to permanent or floating appearances in the anterior cavity, and that the same causes, as well as projections from the choroid, may have a similar effect in the posterior. The retina has been shown to consist of four laminae; the abnormal condition of any one of its tissues may therefore occasion abnormal impressions on the neighboring parts, and produce the phenomena in question. The vessels of the innermost coat may be congested, or varicose, and, pressing on the nervous tissue, may send their appearances to the sensorium. Of the fibrous coat, a filament, or filaments, partially paralyzed, may float before the rest, and thus be rendered visible. Some of the granules of the next lamina may leave their position, and floating before it, appear of various sizes, according to the distance they advance.

When, at a distance of twenty feet, I look at the flame of a candle through a powerful magnifier, held at such a distance from the eye that the whole surface of the glass appears illuminated,* I observe a beautiful mosaic, which rises and falls with respiration, and resembles the granular lamina of the retina under the microscope. On this groundwork I observe several granules more distinct than the first, and following for the most part the motions of the mosaic, yet sometimes allowing it to pass behind them. Besides these I observe several tubulated filaments, waving like threads in the atmosphere. If the eyes become fatigued, a filament resembling a string of transparent beads passes over the mosaic, fluctuates from side to side, and disappears, generally upwards.

From what has been now, and formerly related, it is inferred, that some of the globular spectra are the granules of the lamina exterior to the fibres, and that others are the papillae; that the straight filaments are the fibres, and that the bead-like or jointed tubes or filaments are the fibres partially paralyzed, and contracted upon themselves. The joint may be in some degree compared to contractions of the intestinal canal. Light uncollected into images being thrown on the membrane in this manner by the glass, the retina having no defined image to transmit, transmits an image of itself, and materially assists in affording a knowledge of its structure. When the papillae of the fibres are at a distance from the sensitive membrane, they are also exhibited, and if two candles are used in the experiment, double shadows are seen. When any of the granules project from the rest, their forms are represented, and they may appear of various shapes, or even altogether black from deficient nutrition, or, in other words, from the plate not being properly prepared.

The vascular spectrum may be seen by moving a lighted candle up and down, on one side of the line of vision, when the eye is directed steadily forward and there is no additional light in the room. The vessels of the retina, resembling a withered tree on a purple ground, being congested by the active exercise of the iris and retina, press on the nervous structure behind them, which conveys their appearance to the sensorium.

* When the glass is held close to the eye, the shadows of the tears and eyelashes are represented. These are not abnormal appearances.

Irradiation.—When the image falls on the point of entrance of the optic nerve, the object is not seen, as that portion of the retina is insensible to light. As the fibres are not spread out over this spot, it is inferred that when the retina is in action the conveyance of the image, whether it be light or dark, is effected by the fibres alone, and that when they are not to too great an extent insensible, the insensible spot is not represented, but the ground assumes the appearance of the prevailing objects around it. If we look steadily for some time at a colored slip of paper on a white ground, the paper will disappear when the fibres become fatigued, and it will reappear when after a short repose they have recovered their tone.

Spectra.—The more rapid the undulations of light fall in a given time on the plate of the daguerreotype, the sooner is the picture prepared; thus red light, which furnishes a fewer number of undulations in a second, requires a much longer time to make a picture than violet, which furnishes more; and if we had the means of ascertaining the undulations of the chemical rays, it would probably be found that they furnished more undulations in a given time than the violet. When light falls on the retina at certain intervals, the electricity evolved by the decomposition of the nervous matter will be transmitted at similar intervals. All the colors of the rainbow, then, consist of electrical undulations, some of which are more rapid than others.

If we look intently at a red wafer on a sheet of white paper, and then move the eye a little, a green spectrum of the wafer will appear on the paper. If we substitute a green wafer for the red, we will have a red spectrum. A purple wafer yields a yellow spectrum; a yellow wafer, a purple one; and a corresponding result follows the employment of other colors. These phenomena may be explained by supposing partial exudation of the sensitive plate; in consequence of which, unequal undulations proceed from the retina to the brain. When we look at red light, while the remainder of the retina is acted on by all the other colors, the spot on which the impression is made will be less oxidized, and being consequently more rapidly decomposed than the other portions of the sensitive surface, it will yield a comparatively greater number of undulations in a given time than the rest. The sum of the slow or red-producing undulations being deducted, the remaining colors of yellow and red forming green, will proceed from the less oxidized portion of the retina. When in like manner we look at a blue object, the sensitive surface will be more oxidized, and the part becoming exhausted, will yield few undulations. The rapid or blue-producing undulations being deducted, the compound of the remaining colors, or orange, will become visible.

If we cause light to fall through a pane of purple glass, on a sheet of white paper, and cast a shadow on the latter by means of a pencil or other object, the shadow will be yellow. The purple-producing rays falling on the paper are reflected to the retina, and yield that color, but where they are interrupted by the pencil, the white light from the paper furnishes a comparatively greater proportion of yellow light, and conse-

quently the sensation of that color. In a similar manner we may explain how yellow light gives a purple shadow, and red light a green one, and how a skillful salesman makes even an inferiorly-colored silk to look beautiful, by persuading his customer first to examine those silks in which yellow predominates, under the pretext that they are fashionable, or have just come in. The retina being acted upon by one color, is more sensitive to the complementary one; but no prudent shopkeeper will exhibit a yellow before a drab, or a scarlet before a maroon.

Photopsia.—By improper preparation of the sensitive plate, from disordered nutrition, the granules may be spontaneously oxidized, and occasion the appearance of flashes of light, even when no light is present. As stretching, concussion or irritation of the optic nerve, e. g., in sudden turning of the eye, sneezing, blows, &c., is followed by the sensation of light, photopsia may be occasioned by the mechanical causes which produce amaurosis.

CHLOROFORM IN SURGICAL OPERATIONS.

To the Editor of the Boston Medical and Surgical Journal.

DEAR SIR,—Before this arrives, you will have received the March No. of the Western Lancet, containing our report of the death and *post-mortem* examination, in the case of Mrs. Simmons, who took a fatal dose of the chloroform on the 23d of February. From the statements of the dentists, Messrs. Meredith and Sexton, and the two female friends of Mrs. S. who were present, I am induced to believe that death took place within five minutes, if not less, from the commencement of the inhalation. The suggestion of Prof. Simpson was followed in this case, viz., that it is best to put the patient as speedily as possible under the influence of the chloroform.

There was a plenty of this article in the inhaler; a sponge fully saturated with it occupying at least one third of the space in the glass globe of *four and a half* inches in its internal diameter. Mrs. S., a woman of decision of character, began and prosecuted the inhalation fearlessly, and with twelve to fifteen deep inspirations, as estimated by the dentists, had her lungs flooded to suffocation with the vapor. Although the valve, more than half an inch in diameter, for the admission of air, was opened at the first, a large proportion of chloroform could not fail to have sunk into the lungs in the early part of the experiment; and to have made a strong impression upon their functions. The suddenness of the impression and the quantity of the article caused the death. It seems to have been in its effect not unlike the large doses of alcohol, or opium, which prove speedily fatal. A man in London dropped upon the ground, and was in a few moments dead, from drinking a quart of gin at a wager; and in the interior of Ohio, a few years since, a man, under an attack of mania a potu, drank from a large bottle a draught of laudanum, and was dead in five minutes. The state of the blood in Mrs. Simmons's case, *fluid to the last drop of it*, was like that observed

from the sudden action of an overwhelming dose of a narcotic or alcoholic poison, or of electricity in death from lightning.

I cannot help believing that Prof. Simpson's opinion is erroneous, and that, if taken as a guide in the use of chloroform, it will inevitably lead to further disastrous results. I have performed sixteen surgical operations under the influence of this agent, and without a single unpleasant effect in any case. I have been led to give it the preference to ether, from the greater certainty and expeditiousness of its anodyne operation, and from not having observed the degree of prostration and those tormenting and protracted pains which have repeatedly followed the ether, in severe operations, as amputations of the large limbs. In the case of a young man, from the stump of whose thigh I removed a large portion of necrosed bone, the patient slept so soundly during the entire operation, including the dressing, and, by estimation, for ten or twelve minutes afterwards, that neither hallooing in his ear, dashing cold water in his face, nor pinching his skin, made any sensible impression. But his sleep was quiet as that of a child, with the breathing and the pulse natural; and he readily awoke on the application of ammonia to the nose. From this time onward he was quite comfortable, without a symptom which might be attributed to the chloroform.

In a majority of cases I have seen, the pupils have been dilated under the chloroform inhalation. In one case they were well dilated in about *twenty* seconds. It is natural to infer that an agent which can act so suddenly like a powerful narcotic, should be dosed with some caution; and I am in the habit of employing about half a fluid drachm upon a handkerchief, or small piece of sponge, and after the patient has inhaled it, of repeating it until sleepiness or muscular relaxation is produced; and if the surgical operation is protracted, of renewing the dose on signs being given of returning sensibility. In all the cases in which I have operated, the sensibility to pain has been wholly suspended or nearly so; in some few, consciousness has remained during the whole period; and I believe every patient has expressed entire satisfaction in having made the experiment. A man of 48 years, on whom I operated this afternoon in our Hospital, for strangulated congenital hernia, with *two feet* of intestine in the sac, made the following comment, on being removed from the table—"this *caliform* is a grand discovery."

Yours truly,

Cincinnati, Ohio, March 22, 1848.

R. D. MUSSEY.

CASE OF A FOREIGN BODY LODGED IN THE TRACHEA.

[Communicated for the Boston Medical and Surgical Journal.]

On the 3d of January last, I was called to see a young lad, in this city, about 14 years of age, who, as I was informed, on the Friday preceding, while at school, during recess, being very much engaged in some sports with his mates, had swallowed a piece of charcoal about the size of a bean. From the immediate effects, as described by those

around him at the time, as well as from the subsequent symptoms, I was satisfied that it must have entered the trachea. It appeared he had been in the habit of taking occasionally pieces of charcoal into his mouth, pulverizing them with his teeth, and swallowing the particles made thereby, under the impression that it was favorable to the preservation of the teeth, as well as wholesome to the stomach.

On Saturday and Sunday following, his throat became very sore; he was seized with violent fits of coughing; had at times considerable difficulty of respiration, and raised more or less mucus streaked with blood. Sunday night he grew worse, and when I saw him, Monday morning, he had a high fever; skin hot and dry; tongue coated; much thirst; pulse about 100; respiration 28; and severe dyspnoea, being greater during expiration than inspiration. He appeared also to have taken a sudden cold, which, connected with this local difficulty, presented marked symptoms of inflammation both of the trachea and bronchi. There were at times the same shrill hoarseness, stridulous respiration and convulsive cough, which generally accompany tracheitis and laryngitis. From the sensations which he described about his throat, I inferred that the piece of coal had changed, by violent fits of coughing, its position in the trachea, two or three times, till it was then resting in the right bronchus. This was evident from the increased soreness and pain, at this point, and rendered still more certain by auscultation—the mucous ronchus being very distinctly heard over this region.

On a careful examination, I was satisfied that the piece of coal was situated too low down for the operation of tracheotomy; and from the nature of this foreign body, being coal made from hard wood, I concluded that it would neither decay nor dissolve into pieces, by any agencies that could or would be brought in contact with it. The only chance of relief that I could see, was that of throwing or expectorating it up, by means of coughing, and that the case must be treated on the general principles of such inflammations. I accordingly resorted to emetics, venesection, antimonials, mercurials and antiphlogistics generally. The patient continued several days exhibiting about the same symptoms, such as regular fever turns, and, at times, spasmodic fits of coughing, with increasing expectoration, great difficulty of respiration, which seemed to involve principally the right lung. There was not much change in the symptoms till Saturday, when I found the patient altogether relieved. It appeared that early in the morning, during a violent paroxysm of coughing, accompanied with very copious expectoration, he had thrown up the piece of charcoal, producing at the time great irritation of the fauces as well as severe sense of suffocation. The piece of coal when it came up was entirely covered, as the parents said, with a thick coating of phlegm which adhered firmly to it. This must have been coagulable lymph formed around it. The piece of coal, on examination, was found uneven in form, quite hard in texture, and as large as a small chesnut. The fever, cough and dyspnoea immediately subsided, and the patient recovered in the course of a few days.

Lowell, March, 1848. NATHAN ALLEN.

"THE RELATIONS OF CHEMISTRY TO THE VITAL FORCE."

[Communicated for the Boston Medical and Surgical Journal.]

THIS is the title of an Introductory Lecture lately delivered to the Philadelphia College of Medicine, by D. Pereira Gardner, M.D., Professor of Chemistry and Medical Jurisprudence. The lecture very properly commences, "A few years since, from the midlands of Virginia, within the shadows of the Blue Ridge," at which time the lecturer "sought the city to slake his thirst at the fountains of medical lore." From this poetic introduction the reader will expect considerable of the genuine element throughout the discourse, and he will not be disappointed. The lecturer continues, "Your presence and *objects* recall the companions of those days." It is difficult to understand what "objects" are here alluded to. Thus we have noted the *progress of chemistry*:

"No longer restricted to the art of grinding in a mortar, or making cosmetics and lip salve, it has edged its way into the studies of the physiologist, it has brought new interest into therapeutics and pathology, and well nigh been the death of many a routine doctor practising in the light of a clouded imagination, or in the ray vouchsafed by the phosphorescence of antiquity. *By this advance* it has become unrivalled in the sublimity of its researches."

We should hardly consider *this advance* indicative of much advancement. Possibly, however, *we* may be laboring in the "light of a clouded imagination," or "amid the phosphorescence of antiquity" *we* may not be able to see through it, and such is indeed the case.

But if we have complained of previous non-advancement, we must assuredly lay aside the complaint after a perusal of the following. Truly the science has made advances. Harken to their recital.

"Its facts throw a pleasing veil of poetry over familiar things; it tinges the vapors and the waters with brightness; it gives life to the cold clods of the valley; it endows the impalpable with power. [Probably the last word is intended for *powder*—in which case it might mean something]. The fleecy clouds floating in the air, and vanishing when touched by that arch magician the sun, are to the chemist objects of no common interest. The vicissitudes of climate, and of life, are sketched on their aerial expanse; there are mingled the exhalations of the tropic rising from the scorching plains, and the thin distillations of the arctic; *vapors redolent with the sighs of the weary and oppressed, and with the aspirations of the brilliant and ambitious.* The evening wind comes on from distant lands, mingling the air of the sunny South and North; it has traversed strange countries, and journeying onwards has caught up moisture from the forest lake to refresh the thirsting flowers of the mountain side, and now it strays in the ringlets, and breathes on the lips of the disconsolate fair. *Ah! did she know that it bears the last breath of him who loved her—the hero who sank in victory on the plains of Mexico!*"

It is of course to be hoped that the "disconsolate fair" did *not* know, for if so dreadful a calamity should be thus communicated, Prof. Morse and his magnetism must knock under, to the newly-discovered

chemical properties of the evening wind. Truly this is the age of discovery, and such things may be. We trust in future that the profession will not be considered wanting in the patriotic sentiment, when the mere mention of a new discovery in our science can call forth *such* patriotism from the pen of Dr. Gardner.

"But," continues our eloquent lecturer, "the *thoughts* of the chemist, unlike those of the poet, are *expressions* of realities." This is probably an allusion to some other new chemical discovery of *expressing thought*—perhaps similar to that of solidifying the gases, only more ethereal! We make a few more extracts:—

"That the life of individuals is painfully precarious is readily allowed, but that the aggregate vitality of the globe is *in a state of force and supernatural*, CANNOT BE CONCEIVED; for it is opposed to all experience."

We are free to confess that we cannot conceive the conception or intention of our profound author here.

Our author learnedly informs us that, "Nothing material, no *force of nature*, is capable of annihilation," and then instances, "the heat which cherished the forest oak," "the light which by imperceptible undulations has organized its juices;" "the coal fire which invigorates the body;" "the fine dust of infusorials;" "the pious offering of wheat made by the Egyptian"—all of them, individually and severally, possess a *latent life* which is precisely the same now as it was thousands of years ago, and was precisely the same thousands of years ago as it is now. Such is the erudite and doubtless very correct assertion of our lecturer. We are also informed that the "Capacity of producing life, results from a *certain form* of matter"—the exact "form," however, is not mentioned.

We assure our reader that the above extracts will give him a very feeble idea of the eloquence and erudition of the lecture alluded to—not to say anything of its poetry and patriotism. Our sole object has been to give a taste of its quality, leaving the quantity to be digested in the leisure of our scientific friends. We are sure it will not be necessary to commend it to their attention—the interest and importance of the subject is sufficient of itself—need we add how those qualities are enhanced by the pen and the power of Dr. J. Pereira Gardner?

[NOTE.—By referring to No. 23 of the last volume of this Journal, the reader will perceive that we disagree with the writer of the above review, in our estimate of Dr. Gardner's lecture. It is on the principle of allowing the opinions of others, as well as our own, a place in the Journal, that these criticisms are admitted.—ED.]

USE OF ETHER IN MIDWIFERY.

To the Editor of the Boston Medical and Surgical Journal.

SIR,—I have recently used the ether in a case of puerperal convulsions previous to delivery. Mrs. M——, aged 46 years, seven months ad-

vanced, first pregnancy, of firm health, was attacked at 12 o'clock, night, without any previous warning, with convulsions. They were of the epileptic character, and recurred very frequently, with scarcely any parturient effort—indeed, it was a question whether pregnancy existed or not. At 10, A. M., I applied the ether on a warm sponge, until she had inhaled an ounce. She had no more convulsions, the parturient effort increased regularly, and at 1, P. M., she was safely delivered of a dead fœtus. She had been wholly unconscious from the first fit, and so continued for two days subsequent to delivery.

Whether in this case the convulsions were controlled by the ether, may be doubted. It at least did no harm. In one case of protracted and difficult labor, my patient inhaled four ounces of pure ether without the slightest effect. Calm, and very much desiring and expecting relief from the ether, and being perseveringly and suitably applied, it had no more influence than the same quantity of water. Why? C. J.

ADMINISTRATION OF CHLOROFORM IN CONVULSIONS OF INFANTS.

[Communicated for the Boston Medical and Surgical Journal.]

I was called to see a child, five months of age, who for nearly two hours had been laboring under the most severe and unrelenting convulsions that it has ever fell to my lot to witness in an infant. There was a constant spasmodic jerking of the muscles of the arm, together with the diaphragm and abdominal muscles. Respiration was so much impeded, and had been for so long a time, that there was strabismus of both eyes, owing, probably, to the presence of partially arterialized blood in the brain. The surface was growing more and more cold and livid, and a clammy sweat stood out upon the little sufferer's face and temples. As various antispasmodics had been tried without relief to the patient, I decided upon using chloroform. But a few inhalations were made before the eyes rolled up, the spasm of the muscles ceased, the breathing was free and easy; in fact, the child "came out of the fit." The pulse, which had been absent from the wrist, before the administration of chloroform, was perceptible at once, and the surface of the body grew warm. In about three minutes entire consciousness returned, and in a short time the babe nursed.

Means were then adopted for regulating the disordered state of the bowels, upon which the convulsions were probably dependent. No vomiting, and no unpleasant effects whatever, followed the use of chloroform in this case. The nervous system was fortified against it, just as in acute tetanus, patients will bear enormous doses of brandy or opium.

Not having heard of chloroform being administered before in a similar case, I send you the above, thinking that it may not be uninteresting to some of the readers of your Journal. Yours respectfully,

Williamstown, Mass., Feb. 20, 1848.

H. L. SABIN.

ABETTORS OF QUACKERY.

To the Editor of the Boston Medical and Surgical Journal.

SIR,—There is no profession more honorable than that of medicine. The physician who aims to keep up an elevated standard, and who disdains to tamper with the physical prejudices of the credulous, denotes that his early education was above suspicion. A thoroughly-educated physician will very seldom fall from the reputation of an honorable practitioner. He will as soon disavow the presence of the sun by day, or the moon by night, as he will be led into the various delusions of an uneducated medical profession. A thorough knowledge of the healing art indicates to him a character to which the uneducated can never hope to aspire. Were the principles recommended by the last National Medical Convention carried out, we might hope to see the primary education of our young men entering the profession, more thorough, and in a few years very few of our *fellows* fall into the company of that class whose name is "legion." But so long as we have among us men half educated, there will be a connecting link between the honorable physician and the most veritable quack in the community. The Massachusetts Medical Society, an old and honored institution, has taken high ground; its object is to elevate an educated profession, and to all such its door is open, free and without price. It establishes annually a strict watch over its six hundred members. But in that body occasionally we find one so recreant to honor, so debased by mammon, that he will suffer himself to be a medium of communication between his honored fellows and the vilest quack, and such men often escape with impunity. Appeal to their honor? 'tis useless, they have none. It is time, in this age of reforms and discoveries, that a distinct line be drawn between the physician and the quack. Under whatever name he comes, have no communication with him. Never was the physician beset with so much quackery as is now flooding the country. If the community or a part of it are disposed to patronize the *trash*, let them do it at their peril; but let the voice of an educated profession speak out, and aid it not, either by name or title. The penny press of our large cities deserves the severest rebuke, for the pestiferous influence exerted by its immoral advertisements over the signature of *men* whose moral honesty is frequently brought into suspicion. I am sorry to say, that among many of the clergy of our community there is a disposition to favor the worst of quackery. They certainly are men whose character and profession, above all others, should brand as an evil every moral pollution. Yet they swallow it, they wear it, they believe it, and often practise it. It was through the influence of clergymen that, a few years since, the "Matchless Sanative" was introduced. They were its agents, and through them it obtained a notoriety, and on their heads falls the deception. A minister of the gospel is the last man, above all others, to encourage the use of a nostrum, not only of doubtful efficacy, but injurious, and calculated to do great evil. I contend that every advertised quack medicine is a moral evil, and of no benefit, but vastly injurious. Nature never

intended the stomach to be a receptacle for such poisons. The moral effects of quackery call upon us, as medical men, as ministers of the gospel, as legislators, as a Medical Society of this Commonwealth, and as a community, to exert whatever influence in us lies, to discountenance and expel it in all its forms—and, like rum, gin and brandy, may it soon be obliged to hide its head to escape the calls of a vigilant police.

Lowell, March, 1848.

J. P. J.

DENTISTS AND DENTISTRY.

[Communicated for the Boston Medical and Surgical Journal.]

CREDULITY, since it was first implanted in the breast of mother Eve, and bore fruit to our disgrace, has ever been in the ascendant with man; until, at the present day, the vaunted promise of speculators, however unfounded in reality, proves sufficient to lure the man of reputed wisdom from the path of reason and duty, oftentimes doing him irreparable injury, without changing his course by the test of experience. But in nothing is imposition more apparent than in the profession of medicine, and its legitimate branches. First and foremost of these, is that of dentistry, which gives employment to persons of every grade of intellect, and acquired ability, rising from asinine astuteness, and intermingling with the various forms of knavery, with the flimsy coloring shadowed forth by irrelative improvements, as "*gold mouth cups, elegantly-furnished apartments,*" and the like; or discoveries and inventions, as the "*nerve paste,*" "*indestructible pivot,*" and many others, combining magic virtues, which have not the shadow of a foundation, but prove attractive to the morbid taste of public credulity, which is more ready to adopt an uncertainty qualified by a self-written and paid puff of an improvement, than a well-trying and tested certainty; although there are a few specimens of unappreciated professional merit, who finish the apex of a cone, surmounted by a Flagg as the standard of integrity. But by far the greater part are those who live and prey upon the gullibility of persons willing to barter health and comfort for the retention of the slight balance of lucre necessary to insure a faithful operation by a person qualified, both mentally and morally, for the responsibilities of his profession, virtually giving the lie to the approved saying, that "truth is powerful and will prevail." Indeed there is a mania at present, in city and country, which leads to an implicit reliance in advertisements, let their embellishments be ever so highly wrought with apparent moonshine improvements, which inclines persons almost *en masse* to favor the reputed judgment of an English magistrate, "that of paying forty shillings, and being hung," as they in the end pay a larger amount than would have been required to have had them well done by a skilful dentist, and lose their teeth as the finale of their niggard imprudence. But aside from the morbid judgment of the people, there is a lack of energy on the part of the medical profession, in protecting and aiding its adjunct branches, also in sustaining its dignity as the guardian of

health, by establishing a protective system that should judge of the ability of each applicant for medical honors, to sustain in an able manner the duty that would devolve upon him when engaged in the practice of any of its branches, and by its sanction afford the public a guarantee of safety, as the competition between some of the colleges of our country leads to a process of quackery almost as abject as that having its origin with Thomson. Such a system should also bring more immediately under its control the practice of dentistry, and by elevating its requirements to their proper standard, by a just estimate of the importance that should be attached to the functions of the teeth, which aside from the claims of beauty and freedom from suffering, hold from youth upwards a powerful influence over bodily health. Yours respectfully,

March, 1848.

S. E. R.

CASE OF POISONING WITH SESQUICHLORIDE OF ANTIMONY.

REPORTED BY WEEDEN COOKE, ESQ., RESIDENT SURGEON, ROYAL FREE HOSPITAL.

W. H——, aged 41, a pot-man at a public house, of habits corresponding to his calling, had been drinking rather more than usual for a week, when he locked himself in his room and swallowed an ounce of the butter or sesquichloride of antimony. He immediately experienced a burning sensation in the mouth and fauces, and very soon became insensible; he remained so for half an hour before he was discovered; he was then taken to a surgeon in the neighborhood, who used the stomach-pump, and in an hour after he had taken the poison he was brought to the Hospital, apparently moribund. This was at 4, P. M., April 23d, 1847. The surface of the body was cold and clammy; eyes lustreless, with inactive pupils; the pulse was so small that it was only by the most delicate fingering it could be perceived; and the expansion of the chest so very slight that respiration appeared indeed to be suspended. In this condition it was quite hopeless to expect any effort at deglutition. External stimulants, such as the application of the strong liquor ammonia to the nostrils, tickling the same with a feather, and cold affusion to the head, were applied with marked benefit; the apparently dead was re-animated; in ten minutes he swallowed some tincture of bark, diluted with strong green tea, and this was repeated at short intervals for an hour, during which period he vomited some undigested food three or four times. The heart gradually recovered its nearly-suspended action, the pulse again yielded its regular and beautiful undulations, the pallor and coldness of the surface was changed (although very gradually, and after he had been some time between blankets) to a genial warmth, and the blank meaningless eye, that had abdicated its function, began to exhibit some perception. But so utterly prostrated was he for several hours, that although the brain had evidently recovered some of its powers, he had not the ability to expel air with sufficient force

through his larynx to express himself in language. The vomiting was slight, and did not continue after the first two hours.

April 24th.—He slept during the evening and night, and the green tea was continued at intervals; towards the morning he began to complain of severe pain and burning in the throat and abdomen. He has passed water, but the bowels have not been relieved. The tongue and mouth are not affected, but the fauces is considerably inflamed; pulse 78, small, rather hard; tongue dry in the centre; some tenderness over the whole of the abdomen; no sickness. Ordered farinaceous food, with milk, a dose of castor oil, and a grain of calomel, with a quarter of a grain of opium, every four hours; fomentations to the abdomen. He became restless, and the tenderness increased; the pulse got up to 105, hard, until the oil operated freely, when all the symptoms were relieved. Subsequently he continued to improve daily; the gums were very slightly touched by the calomel, all tenderness of abdomen ceased, and after taking some bark and acid, and good nourishing food, for a few days, he went out of the Hospital on the 3d of May, quite well.

Remarks.—This case derives its interest principally from its rarity, there being but four cases on record, of poisoning from this substance—one quoted by Orfila, from Borrichius, in which a few strong doses of the sesquichloride of antimony were taken by a naval surgeon, for gout. He was quickly salivated; purged "*par haut et par bas*;" collapsed; pulse imperceptible; dyspnoea; but sensible until he died. The other three cases are to be found in "*Taylor's Jurisprudence*;" two of them recovered; in both these, the poison was administered by mistake. In the third case, from two to three ounces of the corrosive liquid were taken by an army surgeon, for the purpose of suicide; he died in ten hours and a half. All these cases resemble, more or less, the one now recorded. The treatment is not given in either of them, but there is no doubt that, as in poisoning by the other salts of antimony, bark is the proper antidote.—*London Lancet.*

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, APRIL 5, 1848.

Infirmary for Sick Children.—Within the circle of benevolent institutions, in this or other countries, there cannot be found a parallel to the one in the city of Boston organized expressly for poor, destitute, sick children, supported wholly by one individual, at an annual expense of about five thousand dollars. The facts in regard to this extraordinary charity, are substantially these. Amos Lawrence, Esq., a man whom God has blessed with a great fortune, and, also, what is far better, a great heart, and a sympathizing nature, rents a large estate on Washington street, which was admirably fitted up, about two years ago, for an infirmary for sick children.

It is liberally furnished with whatever is necessary for their personal comfort and convenience, including a bathing establishment and even a play-ground. The apartments are pleasant, well warmed in winter, and airy in summer. The matron, nurses and servants, including every farthing of the expense, to the daily marketing, from the beginning of a year to its termination, is paid wholly by Mr. Lawrence. Finally, to complete this unique and very excellent hospital, his son, Wm. R. Lawrence, M.D., the physician of the institution, gives to it a devoted attention, which excites the admiration of all who honor the Christian sentiment that animates him in the punctual discharge of his daily ministrations. This, then, is truly a charity which is not puffed up, and which vaunteth not itself. It seeks no great names upon a circular, to give it importance, carries no contribution box into the church, makes no appeals to the pockets of the benevolently disposed, nor in any way seeks the applause of men. Quietly, without ostentation, without parade, but with a steady purpose, it feeds the hungry, clothes the naked, nurses the sick, and takes care of helpless little children! This is charity indeed, and of which our favored city, aye, and the world, may be proud.

Education of Idiots.—A report has been made to the Massachusetts Legislature, now in session, in regard to the number and condition of idiots in the commonwealth. It is drawn up by Dr. S. G. Howe, who is identified with the history of the education of the blind in Boston. Having procured facts of a startling kind in regard to this long-neglected class of unfortunate beings, he now pleads fervently for them, fully believing that many of them may be raised from near the condition of brutes, to participate in the decencies and elementary educational advantages of society. We heard him, in addition to the plea already published, plead the case of these outcasts, last week, before a committee, and the hope is strongly indulged that the doctor's voice will be heard, in full force, till provision is made for these poor, forgotten creatures, whose hold is so slight upon the sympathies of this part of christendom, that no one among us has ever before thought of bettering their intellectual condition.

Dr. Howe proposes that an annual appropriation of two thousand dollars should be expended in the experiment of developing the physical and moral powers of ten or a dozen idiots, and on the results of the success, after a fair trial, should depend the further attempt to elevate, as far as practicable, all that should be selected, not too low in the mental scale, for hopeful culture. Massachusetts provides liberally for the blind, deaf and dumb, and extends her charities, with a liberal hand, to the feeding and clothing of seven thousand foreign paupers, and yet suffers these helpless idiots to live like vegetables, unconscious of existence, and to go down to the grave, without attempting their intellectual and moral development.

Apothecary Shops.—A perceptible improvement is making in the retail medicine stores of Boston. They are, at this period, distinguished for neatness, richness of furniture, and, above all, for a thorough exactness in labeling their drugs, so that a mistake rarely occurs. Mr. J. George Whitwell, corner of Eliot and Tremont streets, has opened a pattern store, and from his good reputation both as a citizen and a druggist, and the ability with which the establishment is conducted, we recommend him to the patronage

of the physicians of the city. If merit has a claim, those who strive to fulfil the duties of their calling with a conscientious regard to the well-being of the community, are entitled to consideration.

Mr. Fowle's shop, in Prince st.; White & Ferguson's, and Mr. Brown's, Washington street; White's, corner of Bulfinch street; and Mr. Thayer's, under the Revere House, to say nothing of the larger establishments to which we have so often referred, are decidedly elegant and well-ordered medicine depots.

Tarrant's Seltzer Aperient.—Dr. Dexter, of New York, has called medical attention to what he considers a valuable effervescing aperient, prepared by Mr. James Tarrant, a druggist of that city. It is considered a successful imitation of the Seltzer Spring, in Germany, with certain chemical additions to increase its efficacy in indigestion, bilious affections, &c. It seems not to have been introduced into Boston, where the diseases for which the article is strongly recommended, abound.

Braithwaite's Retrospect.—As the objects and character of this semi-annual publication are extensively known, it would be a waste of time to recount them. Part the *sixteenth*, of the American uniform edition, from the press of Mr. Daniel Adey, Fulton street, New York, is charged with an excellent variety, as important and worthy of the examination of practitioners as that in any of the previous numbers. Practical Medicine, Surgery, and Midwifery, are faithfully and fully displayed in this, as in the preceding parts, followed by an interesting addenda. It comprises 371 octavo pages, and is sold for seventy-five cents! As each number makes a volume, perfect in itself, no apprehensions need be entertained that it will, like Copland's Dictionary, ever come to an incomplete finale.

Mr. Wiley, State street, is the agent for Boston—to whom gentlemen in the country may send their orders.

University of Louisville, Ky.—Four hundred and six students were catalogued at the Medical School, the present season. Where so many have an origin, and where they are to go, when medically educated, is a question in some minds, but perhaps not among those who have fully examined the capacity, resources and wants of the new settlements at the West. "Since the termination of the last session," the Faculty say, "a liberal appropriation has been made out of the funds of the institution, for the purchase of additional books and apparatus, which have been placed in the Library, Museum, and Laboratory; and through the enlightened policy of the trustees, similar additions will continue to be made annually hereafter. The Faculty have good reasons to entertain the hope, that before the commencement of another session, satisfactory arrangements will be made with the city council for the admission of the pupils of the University to the advantages of the Louisville Marine Hospital; and that, in the course of the season, a comfortable and commodious edifice will be erected, convenient to the hospital, for the purposes of Clinical Lectures, Surgical operations, and Autopsic examinations."

Chicago Insane Retreat.—A private institution, under the immediate supervision of Edward Mead, M.D., appears to have been brought into successful operation at Chicago. The first patient was admitted last August, and now there are fifteen. Excellent accommodations are provided, on the borders of the lake, in a remote, quiet section of the city. Improvements are constantly in progress, and it is reasonable to believe that the institution will grow in magnitude and public favor, in proportion to its utility. The State would do itself honor by making the most ample provision for its support.

New York College of Pharmacy.—Dr. J. F. Holton has been appointed Professor of Botany in the above institution, and is soon to commence a course of lectures. This is mentioned as the first exclusive professorship of that science established in the Union.

Artificial Petrification.—Dr. Sylvester, an Italian, and an eminent chemist, it is said, has discovered a mode of hardening the human body to the consistency of stone or marble, which he is about to exhibit in London. "His specimens have excited great astonishment. One was the head of a lady, with the hair parted and dressed, retaining its flexible properties and colors, although the surface from which it grew resembled stone—some-what like a wax model; also a child's head, plump and dimpled as in life, and a tongue petrified, as if it had never uttered a sound. The petrifying process is said to be simple and cheap. A bouquet of choice flowers—the juices first extracted by a pneumatic process—preserved their natural colors, but were as hard and rigid as if some cunning workman had carved them from Persian marble; for not only the leaves and petals were rendered stone-like, but the minute hair-formed stems were rendered coralline." Whether this will turn out to be anything more than many other "wonderful discoveries," which are never heard of after their first announcement, time only will determine.

The Former Condition of Lunatics.—"When Bethlem Hospital was examined in 1816, * female as well as male patients were chained to the walls, covered only with a blanket formed into something like a gown. One man (Norris, whose case is well known) was kept confined in chains for fourteen years, without the smallest interval of liberty. Stout iron rings were riveted round his arms, body and neck, the latter being made to slide upwards and downwards on a massive iron bar inserted in the wall. And he was placed under the care of a keeper who was almost constantly drunk, but who nevertheless retained his situation several years. Patients were liable to be chained, not merely for safe custody, but as a punishment. It would appear from the evidence that little or no medicine, with the exception of a certain 'powder,' was administered to the patients, 122 in number, and that the medical attendant did not reside in the Hospital, but came once a-day for an hour. The system of treatment consisted of bleeding, purging and vomiting in the spring months. A certain day was appointed on which the patients were bled, another when they were purged, another when they were vomited. They were bled in May, and again in June: the precise time depended on the weather. All this had been in

practice for many years. The patients were once for ten years left to the care of a surgeon, who was 'generally insane and mostly drunk.'—*Journal of Psychological Medicine.*

Paralysis produced by Arsenic.—Dr. Clark related to the New York Medical and Surgical Society, the case of a young woman who, five months ago, took arsenic for the purpose of self-destruction. According to her own account she purchased sixpence worth, amounting to three table-spoonfuls, all of which she took. This was about 11, P. M. Warm water was given her, and vomiting produced. At 3, A. M., she was taken to the New York Hospital, where the stomach pump was used, the hydrated sesquioxide of iron having probably been previously administered. She had afterwards some fever, but gradually became better. Eight days after taking the arsenic she was seized with severe pains in the upper and lower extremities. The parts were swollen, but neither red nor hot. Three days after this she lost almost entirely power over her extremities; she has since continued bed-ridden, and is now at Bellevue. She can move her arms freely, and can close and open her hands, but with no force. The feet are still paralyzed, but she can bend the knees.—*Annalist.*

Mortality of Medical Practitioners in Ireland from Fever.—It is with deep regret that we notice the ravages which fever continues to make in the ranks of our medical brethren in Ireland. Scarcely a week passes without the loss of three or four district medical officers from this cause being announced in the Dublin Medical Press. During the late epidemic, of twenty-seven physicians attached to fever hospitals and districts in the province of Ulster, attacked with fever in the discharge of their duties, fourteen, or more than half, died, leaving nine widows and thirty-seven children, for the most part but scantily or not at all provided for. These gentlemen have fallen a sacrifice in the faithful discharge of duties entrusted to them by the public, in the endeavor to restore health to the sick, and administer assistance to the dying—surely their families are at least as much entitled to a provision at the hands of the Government, as those of any other class of public servants.—*Provincial Medical Journal.*

New Books in London.—Dysphonia Clericorum; or Clergyman's Sore Throat. By James Mackness, M.D., &c.—A Dictionary of Practical Medicine, &c. By James Copland, M.D., F.R.S. Part. XII.

TO CORRESPONDENTS.—An account of Wilcox's Improved Co-apter and Splints has been received, and will be inserted in an early number.

DIED.—In Mayville, N. Y., Dr. Jedediah Pendergrast, 82.—In New York, Dr. Elam Bliss, 68.—At Astoria, Long Island, near N. Y., John P. Conner, M.D., 28.

Report of Deaths in Boston—for the week ending April 1st, 52.—Males, 24—females, 28.—Stillborn, 7. Of consumption, 10—typhus fever, 3—lung fever, 4—scarlet fever, 1—murdered, 1—Inflammation of the bowels, 2—dysentery, 1—infantile, 5—teething, 1—marasmus, 1—pleurisy, 2—disease of the spine, 1—disease of the heart, 1—throat distemper, 2—dropsy, 1—dropsy on the brain, 2—convulsions, 1—child-bed, 1—canker, 1—cancer, 1—old age, 1—drowned, 1—disease of the bowels, 1—croup, 2—disease of the liver, 1.
Under 5 years, 24—between 5 and 20 years, 5—between 20 and 40 years, 11—between 40 and 60 years, 6—over 60 years, 6.

Medical Miscellany.—Mr. Orfila, the celebrated writer on poisons, has been superseded in his office of Doyen (Dean) of the Faculty of Medicine, in Paris.—From a list kept at the lunatic asylum at Utica, of the number of suicides in New York, they appear yearly to be on the increase. In 1845, there were 54; in 1846, 64; and in 1847, 106.—An affray occurred in Nelson Co., Va., on the 19th ult., between Dr. James W. Hopkins and R. L. Taliaferro, which resulted in the death of the latter gentleman. Dr. H., against whom the coroner's inquest rendered a verdict of wilful murder, escaped.—The *Allegemine Zeitung* brings the most distressing accounts from Silesia. Famine and disease prevail to a fearful extent, and the accounts given by that journal surpass even the heart-rending statements during the late distress in Ireland.—One hundred and ten hogsheads of wine, found in the cellars of Neuilly, belonging to the king, were removed to Paris and distributed to the hospitals. The palace of the dethroned king of France has been converted into a hospital for the reception of those wounded in the commencement of the revolution.—A letter from St. Petersburg, of the 7th of February, states that the cholera had disappeared from the provinces of Pensia, Woronesch, Toula and Taurida, and from Cherson and the neighborhood. In the provinces Nenij-Novogorod, Koursk, and Kiew, the malady had not made any fresh progress; while in those of Podolia, Volhynia and Minsk, it had become more intense.—A French surgeon at Guadaloupe, where intermittent and other tropical fevers are common, has discovered that the bark of the *Andsonia digitata* may be used instead of quinine, and that it is even more efficacious than the latter expensive medicine.—A Russian paper states, that in Moscow there is now living a lady who is in her 168th year, and who was married to her fifth husband when she was 121 years old.—Died, at Coburg, Canada, 11th inst., Thomas York, a colored man, aged about 104 or 105 years.—There is a girl in Carroll county, Md., who weighs 413 pounds.—Dr. Coolidge, who was convicted of murder, in Maine, is about 27 years of age, of very genteel form, dark hair, rather pleasant countenance, small dark eyes, somewhat sunken and very restless, no whiskers, and scarcely any beard, forehead not high, and temples pinched in; mouth decently well formed, nose rather thin, but finely chiselled, face narrow, and expression mild, denoting rather sweetness of temper than depravity of heart. He has not the look of a murderer, neither has he the appearance of much genius or talent. His face and form look as if he might have been a ladies' man. And this quality, no doubt, carried him along in his profession more successfully than any deep science or great skill.

DENTISTS AND SURGEONS.

Is want of pure Chloroform, can depend upon finding an article that can be relied upon, by calling at the store of the subscribers, who are always supplied with such as has been tested in hundreds of cases, with unalloyed success.

BREWERS, STEVENS & CUSHING,

m29—3t

Wholesale Druggists, Nos. 90 and 92 Washington street.

ELECTRICAL ROOMS, 19 TEMPLE PLACE.—Boston, Jan. 1, 1848.

AVOIDING newspaper notoriety, still, I may be allowed, through the Journal, to "define my position." It is, to make Electrical Treatment, in all available cases, auxiliary to the regular Profession. I assume not the title of "Doctor," as it does not legitimately belong to me, and only receive it from my medical friends and others, as a matter of courtesy or convenience. I have no fellowship with boasting medical reformers, nor with quackery in any of its forms, and I must confess that even Electricity is not an infallible remedy for all the ills of life. This will be seen in my Report of Dec. 1, 1847, to which I would respectfully refer the Profession, as presenting useful data with regard to this agent. The Report shows the results of my practice in this city for three years and three months. It embraces 1174 patients, presenting 1760 cases, and 70 classes of complaints, with the average amount of treatment in each class. I am impressed with gratitude to a large number of the Profession in this city and elsewhere, for their kindness and confidence, and will endeavor not to abuse it. Many of my medical friends have found that patients, under electrical influence, have exhibited an increased susceptibility to medicine, and consequently have had more rapid recovery under the combined treatment. My improved apparatus for the development and combination of Electricity, Galvanism and Magnetism, in a peculiarly modified form, makes its judicious administration, safe, agreeable, and unexceptionable, under any circumstances. Although too complicated and unwieldy to be portable, these improvements are invaluable to me for house patients. While observation in various quarters proves that an agent so powerful as Electricity cannot, in any form, be tampered with as a *family medicine*, nor by careless and inexperienced empirics, still, its judicious employment may often be of essential service, in connection with the medical skill of the family physician. Its injudicious use may aggravate a complaint, or arouse and develop some latent disease, requiring still more intelligent attention for its alleviation. It is therefore desirable that the Electrician may possess sufficient knowledge of these occasional phenomena, and the proper course of electrical treatment, not only to render these developments harmless, but cause them, aided by the intelligent physician, to subserve a beneficial purpose. The experience of all observing electricians must convince them that great caution and judgment are indispensable in managing complicated chronic cases, and make them feel the necessity of acting under the information and with the advice of the family physician; and therefore, the true and most honorable position for an Electrician is, an unassuming auxiliary to the medical profession.

Dec. 28—1f

JOHN B. CROSS, Medical Electrician.